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Seaweed based food ingredients to inhibit lipid oxidation in fish-oil-enriched mayonnaise

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Natural antioxidants derived from marine algae have a high content of bioactive components with potential for improving oxidative stability of lipids in food systems. In this presentation I will discuss results from our ongoing work on the brown algae *Fucus vesiculosus*. This seaweed contains a wide range of polyphenols with potential antioxidant activity. Thus, *in vitro* antioxidant properties of *F. vesiculosus* extracts have been found to be related to the total phlorotannin content. Phlorotannins is a dominant polyphenolic compound. However, studies on the effectiveness of seaweed extracts in food systems are sparse. Therefore there is a need to look further into this area.

A storage experiment was performed where four different extracts from *F.* vesiculosus were added to fish oil enriched mayonnaise in 2 different concentrations (1.5 and 2 g/kg mayonnaise). At 7 time points (day 0, 3, 7, 10, 13, 21 and 28) samples were taken and analysed. Lipid oxidation during storage was followed by determination of peroxide value, tocopherol content, fatty acid composition and development of secondary oxidation products. Results from this study will be presented.